Rural hub will have an access device for customer connectivity. By enabling various technologies in the three layers, the OneCommunity network design provided the greatest redundancy and availability while offering flexibility to the end users.

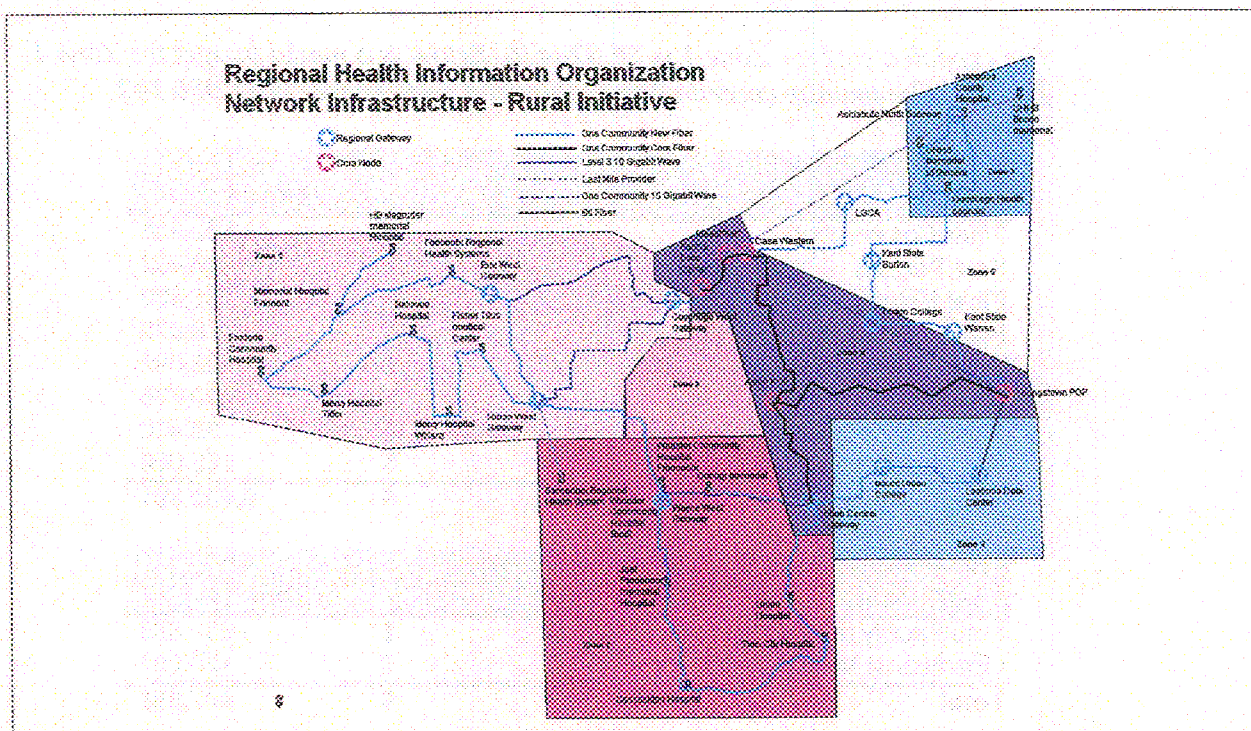## B. Executing the Work Plan and Deployment through Zones

Figure 7. NEO RHIO's Network Infrastructure for Rural Expansion

Now that the different layers of the HealthNet infrastructure have been defined, the NEO RHIO with its partner OneCommunity has designed the network within 6 individual zones that will encompass twenty-two (22) counties. Zone 0 is the core of the network and has already been implemented by OneCommunity. This zone covers Cuyahoga, Columbiana, Mahoning, Summit and Stark counties. Zone 1 will encompass the Northeast portion of Ohio, including the counties of Sandusky, Seneca, Erie, Huron, and Lorain. Zone 2 is the southern portion of Northeast Ohio including counties, Ashland, Wayne, Western Stark, Holmes, Tuscarawas, and Coshocton. Zone 3 will be comprised mostly of Ashtabula County. Zone 4 will entail the counties of Carroll, Columbiana, eastern stark and south Mahoning; Zone 5 will include the counties of Trumbull, Geauga, and lake. Finally, zone 6 will cover the Medina County area. These zones bring together the 22 counties in Northeast Ohio that will comprise the core of the HealthNet infrastructure.

* *Zone 1.* With OneCommunity's expertise in deployment of large-scale optical networks, Zone 1 will be built using 155 miles of level 3, Time Warner and new

fiber. This initial fiber will be used to connect 9 rural hospital locations back to two regional gateways. The two regional gateways, referred to as the "Erie West Gateway" and "Huron West Gateway," will connect back to the core network using Level 3 10G waves. Each of these gateways will have a DWDM system for transport and a MPLS master node for Ethernet connectivity back to the Core. The Rural rings will consist of a hybrid solution of CWDM/DWDM technologies.

The expected cost for Zone 1 is $6,520476. Below is a model budget for Zone 1. The One Community contribution to this total zone budget is $1,956,143.

FCC RHCP Project implementation		Zone ∎
Fiber Construction	$	4,882,838
Pole Permits	$	250,402
Fiber Entrances	$	131,500
Facility Leases	$	8,020
Equipment Costs	$	322,692
Customer CPE	$	213.738
Type II expenses	$	58,400
Project Management	$	165,000
Total	**$**	**6,032,591**

FCC RHCP Project Yearly Operations and Maintenance		1
Pole/Facility and Maintenance	$	36
Operational Management	$	120,000
Total	**$**	**487,885**

Total Project Cost	**$**	**6,520,476**
OneCommunity and Grant Contribution	**$**	**1,956,143**
FCC RHCP Grant Request	**$**	**4,564,333**

- *Zone 2.* OneCommunity's design of Zone 2 will bring 120 miles of Time Warner, at&t and new fiber to the southern portion of Northeast Ohio. The initial Fiber Build will connect **six (6)** rural hospitals back to two regional gateways. The Regional gateways in this zone will be referred to the "Wayne West Gateway" and "Stark Central gateway." The connection back to the core network will happen through the OneCommunity's already existing backbone at the "Stark Central Gateway." "Wayne West Gateway" will connect back to the "Stark Central gateway" by a 10G wave from Third Frontier Network. Each gateway will be deployed with DWDM for transport and an **MPLS** master node for Ethernet connectivity back to the core. The Rural Fiber ring will consist of a combination of CWDM/DWDM technologies.

The expected cost for Zone 2 is $7,394,330. Below is the Budget for Zone 2. The One Community contribution to this total zone budget is $2,218,229.

FCC RHCP Proiect impiementation		Zone 2
Fiber Construction	$	6,133,216
Pole Permits	$	181,356
Fiber Entrances	$	105,600
Facility Leases	$	8,020
Equipment Costs	$	230,452
Customer CPE	$	167.674
Type II expenses	$	13,000
Project Management	$	165,000
Total	S	7,004,318

FCC RHCP Project Yearly Operations and ɿ ɿɿɘɿɿ aɿɿ		Zone 2
ᵖole/Facility and Mainte ɿɿ ɘ	$	270.012
Operational Management	$	120,000.00
Total	$	390,012

Total Project Cost	$	7,394,330
OneCommunity and Grant Contribution	S	2,218,299
FCC RHCP Grant Request	$	5,176,031

- *Zone 3* from the OneCommunity design will encompass the Northeast portion of the state. Zone **3** will bring 50 miles of new fiber to the OneCommunity/RHIO network. The initial Fiber build will include **4** new sites in this area back to one regional gateway. The regional gateway in this area will be referred to as the 'Ashtabula North Gateway' and will also have **a** DWDM infrastructure for transport and **a** MPLS Master node for Ethernet connectivity back to the Core. The "Ashtabula North Gateway" will be connected back to the OneCommunity core network through **a** connection with Time Warner Cable.

The expected cost for Zone 3 is $2,196,337. Below is the Budget for Zone 3. The One Community contribution to this total zone budget is $658,901.

FCC RHCP Project Implementation		Zone 3
Fiber Construction	$	1,447,776
Pole Permits	$	71,505
Fiber Entrances	$	71,712
Facility Leases	$	4,000
Equipment Costs	$	103,128
Customer CPE	$	88,953
Type II expenses	$	44,000
Project Management	$	165,000
Total	**$**	**1,996,074**

FCC RHCP Project Yearly oi and n		Zone 3
Pole/Facility d	$	68.263
Operational Management	$	132,000
Total	**$**	**200,263**

Total Project Cost	**$**	**2,196,337**
OneCommunity and Grant Contribution	**$**	**658,901**
FCC RHCP Grant Request	**$**	**1,537,436**

- *Zone 4.* The OneCommunity Design in Zone 4 is to connect Zone 2 to the core infrastructure and service counties in the Southeastern portion of Northeast Ohio. This build will include **63** miles of new fiber and connect Stark County to One Communities core in Youngstown through DWDM. One Regional Gateway, 'Stark East Gateway' will be added for connection into the surrounding counties. The Network will utilize the One Community's Leetonia Data Center to create connectivity into the surrounding areas.

  A breakdown of Zone 4 is provided in Appendix B.

- *Zone 5* in the Onecommunity network will close the eastern potion of the OneCommunity Network. This zone will go from One Community's Youngstown POP up to Zone **3** and back to the Cleveland Core at Ideastream. This build will bring 120 miles of new fiber and provide a complete DWDM ring for the Eastern portion of Northeast Ohio. There will be 4 "Regional Gateways" created to ensure coverage of eastern Ohio. These gateways will be "Trumbull South Gateway," "Portage Central Gateway," "Geauga South Gateway," and "Lake South Gateway." These gateways will extend the RHIO services into Trumbull, Portage, Geauga, lake, and surrounding counties.

  A breakdown of Zone 5 is provided in Appendix B

- *Zone* 6 is one community's last zone and will complete the western portion of the One Community Network. This will bring DWDM connectivity from the Erie West

gateway to the "Huron West Gateway" a new Gateway will be created in Medina County called the "Medina West Gateway." The Medina gateway will be connected via DWDM to the "Wayne West Gateway." This entire build will bring on **68** miles of new fiber and close the western portion of the Ring.

A breakdown of Zone 6 is provided in Appendix B.

* *Zone Design Offers a New Level of Connectivity.* The *RHIO* network with the partnership of OneCommunity will bring Northeast Ohio to a new level of network connectivity and expectation. The RHIO, with the existing knowledge of One Community and its network, will have the ability for customers to have any-to-any connectivity in Northeast Ohio. The One Community Core network will also allow customers to reach various other providers as well as peering to National Lambda Rail and Internet2 gateways. The One Community network is fully monitored 24x7 by the One Community Network Operations center, which will ensure the best in network reliability. RHIO with the expertise of One Community can offer Ethernet services from 1 megabit to 10 gigabit, Northeast Ohio SONET transport, and dark fiber solutions. One community also brings to the table various data centers and applications that customers can use to better their business productivity and transform their networks into high availability with lower capital expense. The RHIO not only benefits health care organizations, but will allow connectivity to Universities, K-12, and Workforce development. With the assistance of the RHIO's partners including One Community, TFN, Level **3,** Time Warner, and various other partners will enable the RHIO network to bring all the communities in Northeast Ohio to a new digital frontier.

D. HealthNet Project Deployment Schedule

The formation of the NEO RHIO organization and HealthNet currently serves the urban centers with health network relationships that extend into the MUAs and Safety Net providers in the rural communities. The project plan, as provided, enables NEO RHIO and HealthNet to reach over nineteen (19) MUA Hospitals with the help of the FCC RHCP project, and Port Authority Financing. Additional health care providers will have the opportunity to connect to HealthNet increasing the ability of the NEO RHIO to work with local providers to increase the quality of Health care in the rural communities. Phase 2 (Zone I), Phase **3** (Zone 2) and Phase 4 (Zone **3**) will be enabled by funding received through this FCC RHCP Grant. Additional grant and financing will be required to extend HealthNet into Zones 4 through **5.** Zone **6** will be funded through a partnership with Medina County Economic Development Corporation and the Medina County Port Authority.

Figure **8** provides the project deployment plan for HealthNet. The following descriptions detail the work breakdown structure associated with the deployment of HealthNet.

Path Engineering – Path engineering involves walking the fiber routes to survey poles, railroad crossings, and bridge under/over passes. This process is to ensure that the fiber path chosen can be physically built **on** the structures available. During this process all available poles will surveyed and recorded, any underground spans are measured for distance and public utilities are noted, and any obstructions are surveyed and recorded. After this process all information should be gathered for the permitting process.

Permits – This process involves filing all the appropriate paperwork with the various facility providers for access to poles and utility right of ways. This process involves filing the proper paperwork with the utilities as well as with the various counties the infrastructure will pass.

Materials – This step involves ordering all the materials to bring the project together. This includes Cables, hardware, and equipment. This process will involve interaction with the vendors to nail down delivery dates and material availability.

Construction Preparation – This part of the process involved getting all items ready for construction. This would include make ready on utility poles, right away agreements for undergrounds spans, and closing any issues with materials needed to construct the infrastructure. This process would also include a final review of all construction plans and maps and checking to ensure all paperwork was filed and received.

Construction – This is the step in which the physical fiber infrastructure is placed on the utility poles and/or buried underground. This process will involve interaction with construction project managers and outside plant crews.
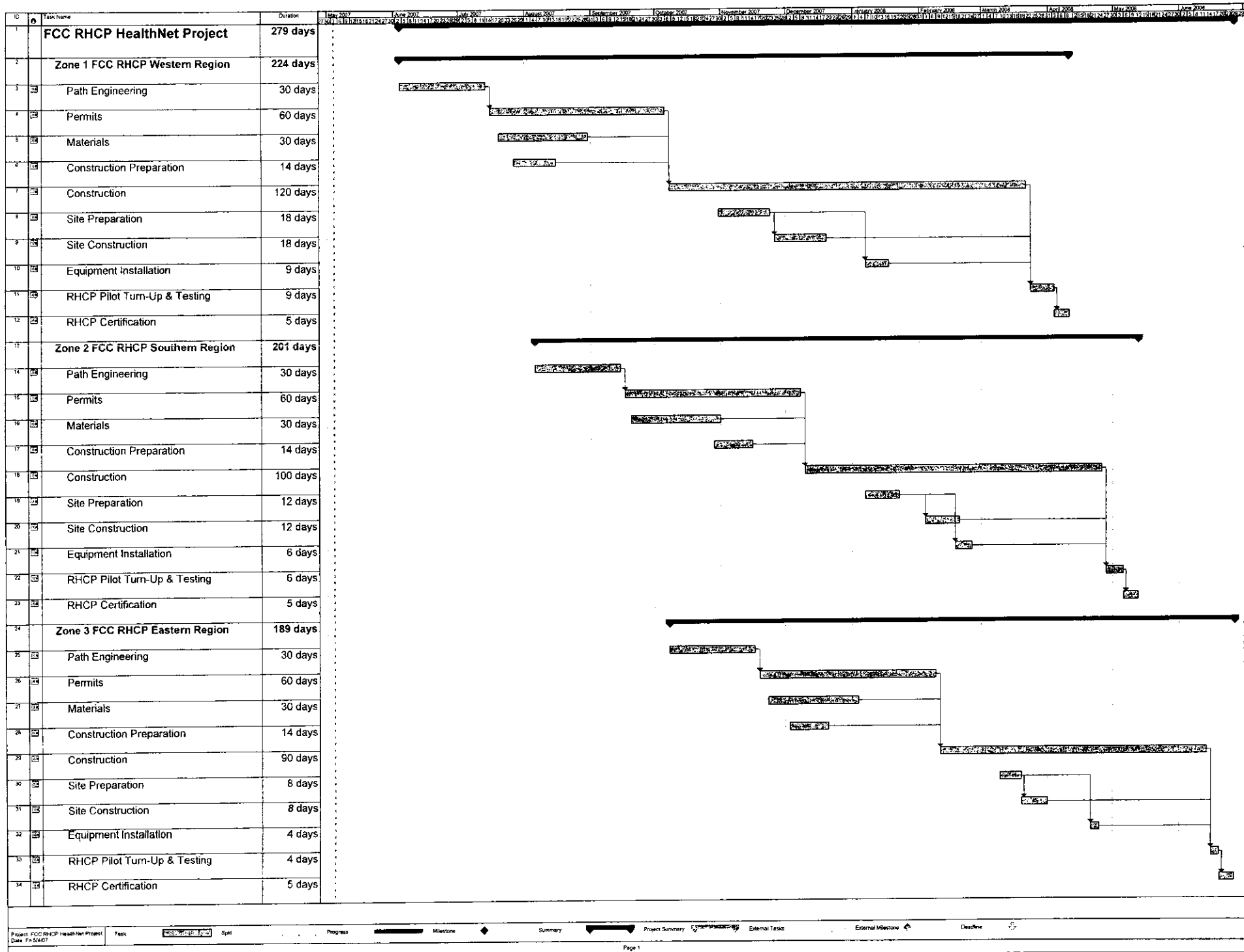
Site Preparation – This involves a few different steps depending on the type of sites. Site surveys will need to be performed on all locations **to** determine available space, power, and environmental requirements. Collocation agreements will have to be established between the vendors and One Community. This would also involve and pre-site installation work that is required to bring the site to operational status.

Site Constructions – This process involves physically installing the equipment and hardware to support the network infrastructure. This will also include any site entrances and cabling required connecting outside plant into the physical space.

Equipment Installation – This includes physically installing the equipment at the Physical customer locations. This process will entail all items needed to attach the customer premise to the network infrastructure.

Regional Health Care Partner (RHCP) Pilot Turn-Up and testing – This will include creating connectivity from the customer premise back to the appropriate gateway and turning up the service the partners have requested. In the phase the network will be tested for reliability and performance. This will be done using various testing tools and methods to ensure the customer will have peak performance back to the network.

Regional Health Care Partner (RHCP) Certification – Once the testing is complete this process will be the certification from both One Community and the customer that the services are active and delivered per the customer expectations.

FCC RHCP HealthNet Project

ID	Task name	Duration
1	**FCC RHCP HealthNet Project**	279 days
2	**Zone 1 FCC RHCP Western Region**	224 days
3	Path Engineering	30 days
4	Permits	60 days
5	Materials	30 days
6	Construction Preparation	14 days
7	Construction	120 days
8	Site Preparation	18 days
9	Site Construction	18 days
10	Equipment Installation	9 days
11	RHCP Pilot Turn-Up & Testing	9 days
12	RHCP Certification	5 days
13	**Zone 2 FCC RHCP Southern Region**	201 days
14	Path Engineering	30 days
15	Permits	60 days
16	Materials	30 days
17	Construction Preparation	14 days
18	Construction	100 days
19	Site Preparation	12 days
20	Site Construction	12 days
21	Equipment Installation	6 days
22	RHCP Pilot Turn-Up & Testing	6 days
23	RHCP Certification	5 days
24	**Zone 3 FCC RHCP Eastern Region**	189 days
25	Path Engineering	30 days
26	Permits	60 days
27	Materials	30 days
28	Construction Preparation	14 days
29	Construction	90 days
30	Site Preparation	8 days
31	Site Construction	8 days
32	Equipment Installation	4 days
33	RHCP Pilot Turn-Up & Testing	4 days
34	RHCP Certification	5 days

X. NEO RHIO and the Application of a Telemedicine Network in Ohio

Ohio is a relatively large state with an extremely diverse population. Each region includes population centers that vary in size and sophistication from rural to urban and high-tech to Appalachian. Statewide HIT and HIE planning must accommodate this reality. It is generally believed that implementing HIT and HIE efforts through regional entities with statewide coordination will allow these diverse communities to address their own needs before reaching out to other communities.

A. Potential Impact to the Populations in 22 Counties Slated for Networking.

NEO RHIO will provide a model and eHealth system that can be extended beyond the planned sites to the following State entities that promote access to quality healthcare for Ohio Residents. Each entity represents an applicable use case.

Use Case #1. NEO RHIO Connecting Stakeholders and a Model for other Ohio Regions

In **2004,** the Health Policy Institute of Ohio (HPIO) (*http://www.healthpolicyohio.org/*), *a supporter of NEO RHIO,* began acting as a neutral convener for Ohio stakeholders interested in the development of health information exchange (HIE). The group of stakeholders has expanded significantly such that it now includes participants representing consumers, payers, pharmacies, hospitals, physicians, state government, behavioral health, long term care, and public health. NEO RHIO has played a leadership role in this effort.

The HPIO process confirmed widespread support for public and private sector policies that would enable adoption of health information technology and more effective electronic exchange of health information. In February 2006, these partners agreed that Ohio needed its own roadmap for health information technology and exchange. That Roadmap was released in October 2006.

The roadmap outlines policy recommendations in four areas: organizational structure; adoption of health information technology; interoperability (ability of sharing information among different technologies); and health information exchange. The entire plan is available at http://www.healthpolicyohio.org/publications/HITRoadmap.html.

The Central and Southern Ohio chapters of the Health Information and Management Systems Society (HIMSS) established a RHIO roundtable forum to support the activities of the RHIOs and Health Information Exchange (HIE). NEO RHIO and extension to rural health care entities will provide the THIMSS Chapter RHIO Roundtable Liaisons a model system for local, state, and national HIT activities. In addition NEO RHIO working with the HPIO and Other OHIO RHIOs has created the Ohio Health Information

Use Case #2. Physician Use of HIT

Ohio KePRO, Ohio's Medicare Quality Improvement Organization performed an environmental scan to gain insight into the prevalence of information technology use in *the* Ohio healthcare industry. The review found that over the past year, HIT has begun gaining momentum in Ohio. **A** large portion of Ohio's physician practices are using HIT solutions for practice management functions, and the number of practices implementing e-prescribing is growing. Working with the healthcare community and the Aligning Forces for Quality, funded by a Robert Wood Johnson Grant for $500,000, *NEO RHIO is helping to develop a standard of care for the use of health information. The creation of the NEO RHIO HIE provides the urban and rural communities access to the same standard of care for health information.*

Use Case #3. Health Information Security and Privacy Collaboration (HISPC)

In May 2006, the Health Policy Institute of Ohio received a federal contract to study how Ohio's privacy and **security** laws and business practices would affect the exchange of electronic health information, and to develop an implementation plan to address those issues which impede interoperable health information exchange. This is an integral component of efforts to develop the Nationwide Health Information Network (**NHIN**). *NEO RHIO has been working on the HISPC as part of the State of Ohio's efforts to ensure that HIE in Northeast Ohio will follow the guidelines for HISPC. These efforts will ensure that our rural telemedicine efforts will not compromise the security of privacy of our regions healthcare consumers.*

Use Case #4. Academic Research and Public Entity Connections

OneCommunity provides a public/private network that currently interoperates with a variety of public/private networks. The Third Frontier Network (TFN), a publicly funded effort to promote development and dissemination of cutting-edge technology across the state of Ohio, has established the capabilities to efficiently transfer information from research laboratories, universities, and government entities within the State. Onecommunity serves as an on-ramp to the State network and plans on providing on-ramps to the National Lambda Rail (NLR) to facilitate interconnection for academic Clinical Medical Education (CME), public and private health research, and access to public and private healthcare services. *NEO RHIO will serve as the gateway for the rural community for the same level of access that the urban healthcare facilities enjoy today.*

Use Case #5. Linking Statewide Health Services

NEO RHIO is in collaboration with the State of Ohio, RHIOs and Public Health Organizations, and it will *serve* as a gateway for health information and services to the rural health providers in Northeast Ohio. Following are descriptions of a few of those regional organizations.

Partnership (OHIP) to focus on development of best practices, education and advocacy. *The NEO RHIO Rural Healthcare Initiative will provide the rural health providers a framework to participate in the state and regional efforts to improve the standard of care.*

All recommendations are consistent with the actions contemplated by the NEO RHIO business plan. *NEO RHIO serves as the principal Regional Health Information Organization in Northeast Ohio serving twenty-two counties with over four (4) million local residents and over (1) million residents of our rural communities.*
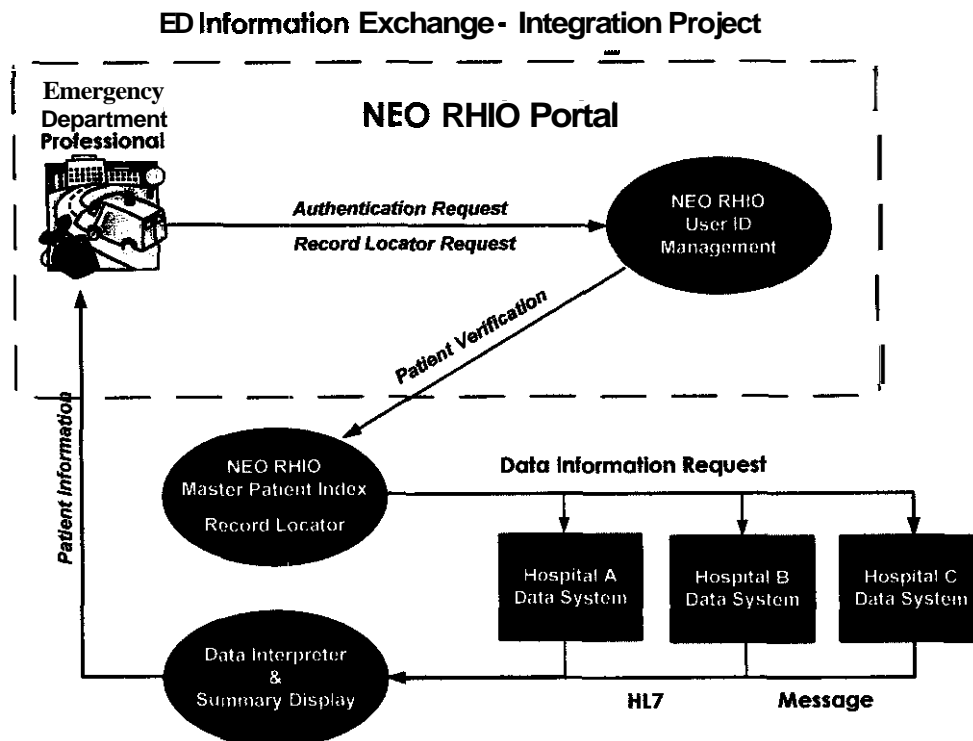

Figure 9. Emergency Department Exchange.

The NEO RHIO information exchange will provide a secure, high capacity connection between the rural and urban health facilities providing the rural communities access to the same standard of care that the urban communities provide. This conceptual drawing illustrates how data is securely transmitted from the point of care and accessed by emergency care providers. Funding from the FCC Rural Health Pilot will allow NEO RHIO to extend this type of telemedicine medical care to regional residents in rural communities.

1. *HealthBridge.* Healthbridge is a health information exchange serving in the Greater Cincinnati Tri-State Area, seeks to improve the quality and efficiency of healthcare in the community. HealthBridge works with participating healthcare stakeholders to facilitate the creation of an integrated and interoperable community healthcare system. Their efforts include the adoption of community standard technologies and various work processes. The HealthBridge system connects thousands of providers, as well **as** linking with community healthcare facilities, like nursing homes, independent labs, and radiology centers. HealthBridge provides participants with access to over *60* hospital-based critical care systems including radiology images, fetal heart monitoring, hospital-based electronic medical records, and chart completion, among others. Additionally, HealthBridge operates the largest secure, community-based, clinical messaging system in the country – serving as an outsourcing solution for participating hospitals and ancillary facilities.

2. *The Office of Ohio Health Plans* (OHP), within the Ohio Department of Job and Family Services (ODJFS), administers the Ohio Medicaid program, which is the sixth largest public purchaser of health coverage in the country. The Ohio Medicaid program covers an estimated 2.1 million Ohioans at varying times during each year. The program also covers an additional 1.6 million Ohioans through a fee-for-service system and another *500,000* individuals through a managed care system. Ohio Medicaid provides healthcare coverage for one in three births, one in four children, one in four seniors over the age of 85, and seven in ten institutional long-term care recipients.

   This large program comes at a high cost to the state. The State Fiscal Year (SFY) 2006/2007 budget appropriated $22.3 billion for Medicaid services. This spending accounts for 20.7 percent of Ohio's total budget spending, or 18 percent of state general revenue fund spending in program management and in patient care arenas. The Ohio Medicaid program has many technology-based initiatives in place and in planning. Because of its size and importance to the Ohio economy, it is anticipated that the program will be a major participant in RHIO activities throughout the state.

Use Case #6. The Value of Remote Medicine- **An** Application for Patients with Special Needs

A major medical center within the NEO RHIO network, through a HRSA rural funding opportunity, has implemented a telemedicine network for patients with special needs. **A** survey based on a nationally representative sample of working mothers or family caretakers showed that only 39% have someone they could call to help them with a patient with special needs when that individual becomes ill.' Forty-nine percent of these caretakers reported they need to miss **work** when their family member becomes ill. Seven percent report they don't know what to do when this situation arises. Time lost from work can jeopardize a caretaker's employment. Since patients with special needs may also

require multiple Visits to sub specialists and ancillary health care providers, additional caretaker absences from work to access health care for acute illnesses for their caretakers may be particularly important to minimize. Patients may not receive treatment for acute illnesses until their condiiion worsens so that they then seek emergency care.

Telemedicine improves access to the medical home - research has shown that using telemedicine in this way provides care that is as effective and as reliable **as** or better than usual care," and we will provide services and systems to assure quality of care. Use of telemedicine services are likely to provide more timely care, reduced morbidity, reduced absence from school/programming, reduced caretaker work absence and reduced household stress and should promote the health of patients with special needs.

Telemedicine particularly provides a unique approach to improve access to acute care for patients with special needs in rural areas and to reduce the morbidity, financial, logistical and psychological burdens borne by patients with special needs, their families and their communities. *An* established telebealth network in two rural counties in northeast Ohio through the use of this telehealth network has improved acute illnesses among special needs patients. The network also has the potential to reduce the costs of medical treatment for families and healthcare providers alike.

The success of this telemedicine program includes:

- Timely, same-day access to quality health care for acute illnesses
- Continuity of care within the child's medical home
- Privacy protection of medical records

This project, implemented by the major hospital, and NEO RHIO subscriber is currently in the process of evaluating this telehealth network in a two-county rural region of northeast Ohio:

- Reduce emergency department visits of rural patients with special needs by 30%.
- Reduce absenteeism due to illness of patients with special needs in their preschool/school program by 30%.
- Reduce parent absenteeism from work due to need **to** seek medical care for their patients with special needs by 20%.

Use Case #7. Applications to Public Health Programs for the Uninsured

The Health Information Exchange capabilities provided by NEO RHIO will support connecting to data repositories such as the one now in place through the Dayton Center for Healthy Communities: HealthLink Miami Valley Project. Established in 2000, the HealthLink Miami Valley project is a community-wide coalition of health and human services providers dedicated to improving access to and quality of care for Dayton's uninsured population. The project assists over 10,000 uninsured residents annually,

enrolling 40 percent of participants in public health programs such as Medicaid. The HealthLink Information Exchange provides a web-based central repository of data for the uninsured population. The data includes demographic information and self-reported utilization information. Providers from multiple sites can access patient information electronically and query the system for eligibility data.

Use Case **#8.** Public Security and Biosurveillance

The Ohio Department of Health has used federal funds to implement a bioterror/disease tracking system. The Real-time Outbreak and Disease Surveillance (RODS) system provides emergency departments and other public service providers with software, which identifies certain symptom complexes and trends, and automatically reports potential bioterrorist or disease outbreaks to public health officials. *The NEO RHIO network will insure the access to the latest public health updates, disease and bio-terror alerts.* It will also maximize interoperability so crucial among the first response medical teams, investigators, and emergency health providers in the event of a bio-disaster.

Another approach that NEO RHIO is proposing is to have live streams from a number of its hospital members for the purpose of creating a biosurveillance and public reporting platform. These streams are dependent on network capacity rather than institutional systems. This approach requires access to high availability communications systems and will require scalable network capacity between the member institutions. OneCommunity is already providing connectivity to a large number of the initial RHIO membership and has the ability to scale capacity on demand for the RHIO members without adding significant cost.

Aggregate Reports
Biosurveillance, Public Reporting and Other Uses
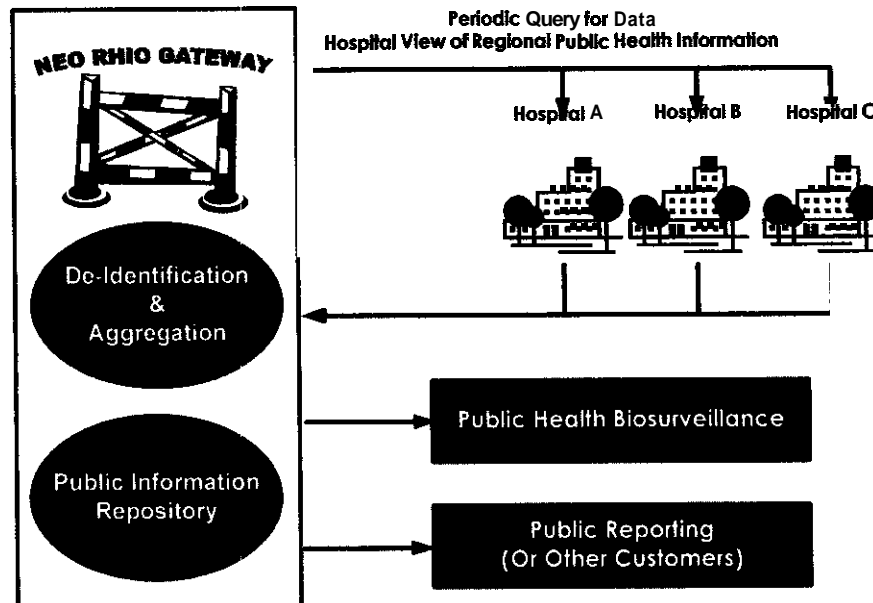

Figure 10. NEO RHIO Biosurveillance and Public Reporting

The aggregation and de-identification of data as it is transmitted across a network will make patient information accessible, yet secure. NEO RHIO will provide surveillance information to public health authorities. This will include de-identified, aggregated records for the purpose of outbreak detection, and legally-mandated individual disease reports for case management.

Use Case #9. Consumer Focus Net Wellness

The FCC Rural Pilot Grant offers extraordinary opportunity to demonstrate the potential for consumer engagement in telemedicine projects. Including patients by providing health information that they can understand and use is vital for all initiatives that seek to improve health and achieve the best health outcomes. This is particularly true for both prevention and management of chronic disease conditions. In this pilot, rural health systems and providers will use HealthNet infrastructure to bridge the health information gap between provider systems and patients that has long been a barrier to care. Together with NetWellness and existing high-speed library networks, OPLIN (Ohio Public Library Information Network) and INFOhio (Ohio's information network for K-12 schools), rural providers will have a *continuous consumer health information system,* linking health systems and community sites.

The benefit to providers and their teams is that they can use the trusted NetWellness resource as an adjunct to care in the office, providing patients understandable information and an ongoing health information source once they leave the office. Through the state-wide reach of OPLIN & INFOhio, providers are assured that all patients and their families have access to NetWellness through the broad-band connectivity so important for most effective use of the Internet. **An** "electronic filing cabinet" in the office and a ready resource at home, NetWellness can support health care goals, engaging consumers in prevention and self care objectives.

XI. Sustainability and Future Expansion of the NEO RHIO to Rural Health Care Facilities

There are a number of reasons healthcare stakeholders in Northeast Ohio have established a RHIO. NEO RHIO provides the opportunity to share health information and to increase the efficiency of the community's healthcare delivery system **as** described in the preceding case studies. This saves costs while improving the health of individuals in the community. In addition NEO RHIO directly supports the continued development of healthcare as a leading industry in the region that already shines in the areas of healthcare, education, and industry. By bring these services to the rural community the NEO RHIO will enable everyone within rural and urban communities throughout the region to have access to quality health care.

A. NEO RHIO Members Have Existing Health Practice Partnerships with MUAs

Most of the **MUAs** in Northeast Ohio have existing practice relationships with multiple health practices and hospitals in within the Northeast Ohio RHIO. These service relationships typically require transfers within the health network without the benefit of e-Medical Record **or** the transfer of a health consumer's medical file. By providing broadband services to the MUAs ; NEO RHIO will enable them to have access to the same medical information, telemedicine diagnostic support and disease management services.

B. Aligning Quality for Health Forces in Underserved and MUAs

The expansion of NEO RHIO would place this region at the forefront of efforts to advance safety, quality, and efficiency of healthcare, as well as improve access through health information technology.

In Northeast Ohio, several employer, payer and foundation-led supported efforts are underway to implement cost containment / quality improvement programs. The Health Action Council of Northeast Ohio (HAC) (http:1/www.healthactioncouncil.orfl is a Cleveland-based non-profit group led by purchasers that offer health benefits to employees, dependents and retirees. **HAC** members provide healthcare benefits for more than 1.5 million lives. They provide value to members by working together, and with community stakeholders (physicians, hospitals and health plans), to improve the quality and moderate the cost of health care. HAC has lead multiple quality initiatives including

the Cleveland Health Quality Choice program, encouraging Leapfrog patient safety reporting among hospitals in Northeast and Central Ohio, and coordinating the Plan Performance Project, using eValue8, an RFI through the National Business Coalition on Health, to focus Ohio health plans on quality of care.

In Summit County, the Northern Ohio Health Care Summit has convened stakeholders to explore potential solutions to the rising cost and shrinking access to healthcare. The Employer Health Purchasing Corporation of Ohio (EHPCO) (www.ehpco.com) is a Canton-based organization of over 100 member companies representing over **400,000** covered lives. It blends traditional purchasing activities with programs that provide financial incentives to physicians who participate in quality initiatives that improve the care of patients with chronic diseases while limiting the variability and cost of their care.

In addition, Robert Woods Johnson has funded the Aligning Forces For Quality effort which is a combined community effort with the underserved, safety net, MUAs and healthcare providers in Northeast Ohio.

C. Professional Development and Wellness Education

By connecting the designated rural and **MUAs** and underserved communities to NEO RHIO; we intend to provide the rural healthcare community to have access to medical professional development, diagnostic support, and disease management continuing education. In addition it is the belief of the health community that continued wellness education and disease management for the community will reduce the demands on the existing health care system and lower the cost of health care in the future.

[1]   Center for Disease Control and Prevention, U.S. Department of Health and Human Services.   "Profiling the Leading Causes of Death in the United States: Heart Disease, Stroke, and Cancer; Chronic Diseases: The Leading Causes of Death, Ohio." Atlanta: U.S. Department of Health and Human Services, November 2005. p. 4.

[2]   Institute of Medicine **of** the National Academies. "Quality Through Collaboration: Quality Chasm Series. Washington: The National Academies Press, 2005. p. 21. Supported by http://www.oucom.ohiou.edu

[3]   Ha T. Tu, Paul B. Ginsburg. Center **for** the Studying **of** Health System Change. Losing Ground: Physician Income, Tracking Report No. 15, June 2006. http://www.hschange.com/CONTENT/851/?words=physicians%25

[4]   Wyn R, Ojeda **V,** Ranji U, Salganicoff A. Women, work and family health: a balancing act. Issue Brief, April 2003, Kaiser Family Foundation

[5]   MConnochie KM, Effectiveness in replacing office visits. Telemedicine Journal and e-health, June 2002

APPENDIX A
NEO RHIO and OneCommunity's Recognition

APPENDIX A
NEO RHXO and OneCommunity's Information

Current NEO RHIO Partners

For the past decade Northeast Ohio similar the other national trends has transitioned the healthcare provider landscape into an oligopoly. There are six *to* seven key hospital systems throughout the region with various "arrangements" with urban and rural hospitals. This alignment brought on because of competition drivers has also aligned a significant portion **of** the care providers and ancillary services. Over the last two years OneCommunity, now supported through the NEO RHIO has through technology adoption, guided these hospital systems to think regionally and also collaboratively. The end result is that OneCommunity has focused health system "competitors" to contemplate using broadband technology to construct state- and region-wide broadband networks to provide telehealth and telemedicine services. This **is** a critical and dynamic shift in regional thinking and is central to the OneCommunity approach.

Table 1: Current hospitals, all nonprofits, currently connected to NEO RHIO

The table below is a list of subscribers to the NEO RHIO. Currently, these are the facilities rural residents come to for emergencies or serious illnesses or conditions. Under the proposed NEO RHIO FCC expansion, these hospitals will serve as tertiary sites that will connect to the rural facilities.

Hospital or System (IDN)	Location	County
*University Hospitals of Cleveland	Cleveland	Cuyahoga
Rainbow Babies and Children's Hospital	Cleveland	Cuyahoga
UHHS Bedford Medical Center	Bedford	Cuyahoga
UHHS Brown Memorial Hospital	Conneaut	Ashtabula
UHHS Geauga Regional Hospital	Chardon	Geauga
UHHS Heather Hill Hosp. & Health Partnership	Chardon	
UHHS Memorial Hospital of Geneva	Geneva	Ashtabula
UHHS Richmond Heights Hospital	Richmond Heights	Cuyahoga
Southwest General Hospital	Middleburg	Cuyahoga
*Cleveland Clinic Foundation	Cleveland	Cuyahoga
Fairview Hospital	Cleveland	Cuyahoga
Lakewood Hospital	Lakewood	Cuyahoga
Lutheran Hospital	Cleveland	Cuyahoga
Marymount Hospital	Garfield Heights	Cuyahoga
Euclid Hospital	Euclid	Cuyahoga
Hillcrest Hospital	Mayfield Heights	Cuyahoga
Huron Hospital	Cleveland	Cuyahoga
South Pointe Hospital	Warrensville Hgts.	Cuyahoga
*Summa Health System	Akron	Summit
Akron City Hospital	Akron	
Cuyahoga Falls General Hospital	Cuyahoga Falls	Summit
St. Thomas Hospital	Akron	Summit
*MetroHealth Medical Center	Cleveland	Cuyahoga

Hospital or System (IDN)	Location	County
"Medina General Hospital	Medina	Medina
*Akron General Medical Center	Akron	Summit
Lodi Community Hospital	**Lodi**	**Medina**
*Aultman Hospital	**Canton**	**Stark**
*CSA / UHHS		
St. John West Shore Hospital	Westlake	Cuyahoga
St. Vincent Charity Hospital	Cleveland	Cuyahoga
Mercy Medical Center	Canton	Stark
Lake Hospital System	Willoughby	Cuyahoga
Lake Hospital System East - Painsville	Painsville	Lake
Lake Hospital System West - Willoughby	Willoughby	Cuyahoga
Allen Medical Center	Oberlin	Lorraine
Forum Health		
Hillside Rehabilitation Hospital	Warren	Trumbull
Northside Medical Center	Youngstown	Trumbull
Tod Children's Hospital	Youngstown	Trumbull
Trumbull Memorial Hospital	Warren	Trumbull
HM Health Partners		
St. Elizabeth	Youngstown	Trumbull
St. Joseph	Warren	
Wadsworth-Rittman Hospital	Wadsworth	Medina
Parma Community General	Parma	Cuyahoga
*Akron Children's Hospital	Akron	Summit
Barberton Citizens Hospital	Barberton	Stark
(Triad Hospitals Inc)		
Ashtabula County Medical Center	Ashtabula	Ashtabula
Community Health Partners	Lorain	Lorain
EMH Regional Medical Center	Elyria	Lorain
Robinson Memorial Hospital	Revena	Portage
Alliance Hospital	Alliance	Ashland
Wooster Community Hospital	Wooster	Wayne
Grace Hospital - CCF	Cleveland	Cuyahoga

Company History and Background

OneCommunity is an ultra broadband high-speed information technology network. This network connects subscribers to each other and the Internet at gigabit speeds that are hundreds if not thousands of times faster than typical speeds. The bandwidth and speed of connection create opportunities for development of new applications and collaborative relationships that will result in organizational innovation. The current partners in this network include Cleveland area nonprofit, government and higher education institutions that share a common vision and commitment to increase access to education, cultural activities, research, health care and government services. The partners also share *a* commitment to utilizing the network in ways that will increase effectiveness and efficiency of their organizations and contribute to economic development.

The groundwork has been laid for Onecommunity to expand throughout Northeast Ohio and become a regional network with the temporary name "OneCommunity". This transformation to "OneCommunity" will bring the benefits of the network to a broader community of organizations and enhance efforts **to** advance economic development through regional cooperation. "OneCommunity" is poised to become more than an ultra broadband fiber network; rather it is an information technology platform for changing the future of individual organizations and the region as a whole.

"OneCommunity" has been working with a number of partners to design the network including; Case Western Reserve Universily, the City of Cleveland, Cuyahoga County Community College, the Cuyahoga County Public Library, The Cleveland Museum of Art, MetroHealth Hospital System, and WVIZ/WCPN ideastream. In addition, we have been working with the Greater Akron Chamber, INFOLINE, the National Inventors Hall of Fame, SUMMA Health System, and the University of Akron to identify ways in which the network will change the future of individual organizations and allow the region to be recognized **as** a model of excellence in developing programs and service innovations that are enhanced by the technology.

OneCommunity's Founder organizations have provided the drive to initiate this effort. Each Founder organization **has agreed** to provide thought leadership, organizational capacity, influence, and IT related resources that directly benefit OneCommunity. Resources include academic content, connections **to** other networks and resources, pooled granting opportunities, technology expertise and currently owned fiber and equipment.

Founders & Board

OneCommunity's value proposition to its organizations is that it will provide a high-speed data network that meets organizations' current and future data transmission needs, enabling the creation of new value and new services not otherwise possible, all at a price well below what could be realized by acting individually to secure similar capabilities.

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OneCommunity's Mission

OneCommunity is a 501(c)3 organization dedicated to advancing the adoption of technology. OneCommunity's mission is to improve the Economic Vitality and Global Competitiveness of the region by Connecting, Enabling and Transforming our Community which leads to improving;

Quality of Life

- Arts and Culture
    - o Healthy Community
    - o NEORHIO
    - o Aligning Forces for Quality
    - o HealthNet
- Enhanced Community Services
    - o Public Safety
    - o Public Transportation
    - o Public Libraries
    - o Collaboration, Regionalism and Shared Services

Lifelong Learning

- Education (Pre-K to 20)
    - o OneClassroom
    - o Workforce Development
    - o Senior Living

Economic Development

- Access, Adoption, and Inclusion
- Capacity Building and Enablement of Community Services
- Attract and retain Jobs, Businesses and Investment
- Research and Innovation
- Regional Marketing

National and International Recognition

Leading the Global I T Revolution

THE TOP SEVEN INTELLIGENT COMMUNITIES OF 2006:
in alphabetical order are:

-Cleveland & N.E. Ohio, USA
.Gangnam District. S. Korea
• Ichikawa. Japan
• Manchester, UK
-Taipei, Taiwan
• Tianjin, China
.Waterloo, Ontario. Canada

THE COMPUTERWORLD
HONORS PROGRAM

"Honoring World Leaders Using IT to Benefit Society"

Awarded by Top 100 Global Tech CEO's

Intel Corp. proclaims OneCommunity and Northeast Ohio:

intel   "Top 4 Worldwide Digital Community" (8/05)

Key Partnerships

Unprecedented public private partnerships means scale, sustainability, investment, jobs, and innovation

CISCO SYSTEMS

N L R

BlueBridge

TIME WARNER CABLE

Adelphia

at&t

Cavalier

Sprint Together with NEXTEL

The Burton D. Morgan Foundation
Committed to the Free Enterprise System

intel

Charter One
Not your typical bank."

optiem

IBM

PerceptIS

First

velti

Sun

National City

TFN
OHIO LIGHTS THE WAY